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The prevalence of hepatitis C infection in general population in Shiraz, southern Iran

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Background: Hepatitis C virus (HCV) infection is a major blood-transfusion infection with silent epidemic and major global public health problem and diverse prevalence worldwide. Objectives: To determine the prevalence of HCV infection in general population of Shiraz city, Fars province in Iran, and evaluate the real risk factors in these areas.

Methods: A cross-sectional study was performed from March 2010 to April 2011. All of Iranian participants aged equal or above 35 years old were evaluated for HCV antibody with enzyme-linked immunosorbent assay (ELISA). They Confirmed with polymerase chain reaction (PCR).

Results: Fifteen out of 2080 (1181 men and 899 women with minimum age of 35 years and maximum of 83 years old) participants were anti-HCV positive (prevalence 0.72%). The highest prevalence was seen in age ≤45 years old. A statistically significant correlation was found between blood transfusion and presence of anti-HCV antibody ($p<0.001$). Those with a history of blood transfusion had fifteen fold higher risks for anti-HCV positivity. No statistically significant correlation was found among other variants and positive anti-HCV.

Conclusion: Due to non-significant correlation between other variants and anti-HCV+ except blood transfusion, further evaluation for detection of risk factors is recommended. Moreover, it is emphasized that the donated bloods be evaluated with PCR and the importance of sterility of instruments in medical and non- medical conditions and education of transmission routes be taken into account.

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Post-transfusion-transmitted hepatitis C virus infection: a study on thalassemia and hemodialysis patients in southeastern Iran

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Background: Thalassemia and hemodialysis patients are at risk of blood-transmitted infections due to their long-term need for worldwide. Therefore, the aim of this research was to investigate the prevalence of HCV infection in thalassemia and hemodialysis patients in Kerman, in southeastern Iran.

Methods: In this cross-sectional experimental study, 384 (203 hemodialysis and 181 thalassemia) patients were examined for HCV infection. Demographic data were also collected by questionnaire, and HCV infection was screened by enzyme-linked immunosorbent assay (ELISA) and confirmed by reverse transcriptase-polymerase chain reaction (RT-PCR). Data were analyzed by chi-square and t-test.

Results: Our results showed that 81 (44.7%) thalassemia and 64 (31.5%) hemodialysis patients were infected with HCV. There was a significant relationship between HCV positivity and the frequency of blood transfusion and the duration of dialysis in thalassemia and hemodialysis patients, respectively. Based on our results, the prevalence of HCV infection in thalassemia and hemodialysis patients in the southeastern part of Iran is higher than the other parts.

Conclusion: Therefore, it is suggested that clinical and health authorities in southeastern Iran should pay more attention to preventing the transmission of HCV through blood and blood components.

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Canine furious and paralytic rabies: studies of neural tract integrity, blood brain barrier, virus and inflammatory distribution patterns

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Background: Rabies fatality requires an impenetrable blood brain barrier (BBB) as one immune-evasive mechanism. Survival periods are longer in paralytic rabies with lower virus load in the brain than in furious rabies. Whether this phenomenon is associated with leak from BBB and more pronounced inflammation in the case of paralytic rabies is intriguing.

Methods: Group analyses [normal (8), furious (2) and paralytic (4) at early stage] of diffusion tensor imaging (DTI) technique were utilized in the study of BBB [mean diffusivity (MD)] and tract integrity [fractional anisotropy (FA)]. Whole brain probabilistic DTI tractography maps were used for dog brain's normalization. Fifteen brain and spinal cord regions of furious (5) and paralytic (5) dogs at early stage were included in a comprehensive study. Rabies viral (RV) antigen and viral RNA were quantified. Distribution and degree of inflammation were also evaluated.

Results: DTI (MD and FA) probabilistic maps were more sensitive in detecting and localizing the abnormalities seen in the brain